



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BULLETIN
OF THE
TORREY BOTANICAL CLUB

JANUARY, 1909

The ferns and flowering plants of Nantucket. — IV

EUGENE P. BICKNELL

ARACEAE

ARISAEMA PUSILLUM (Peck) Nash.

Locally rather common in low or wet shaded thickets, mainly in the northeast quarter: Quaise; Polpis; Pocomo; Squam. In fresh flower June 7, some fruit turning red Aug. 13, 1906; mature fruit Sept. 17, 1907.

The Nantucket plant is more especially the state or form known as *A. Stewardsonii* Britton. This, in its representative development, shows a considerable divergence from typical *A. pusillum* but, in localities on Long Island where it grows in abundance, the evidence appears unmistakable that the two plants are extreme variations of a single species. The corrugated spathe, although a noteworthy character, is an unstable one and may or may not be shown by plants growing together in the same colony. I have not, however, seen it as strongly emphasized in plants from anywhere on the coastal plain as in the type specimens from the mountain region of east Pennsylvania.

On Long Island, *A. pusillum* is essentially a plant of the coastal plain, where it replaces *A. triphyllum* of the hilly country. The two species are not at all constantly different in size, and *A. pusillum* when stoutly grown fully gains the proportions of good-sized examples of *A. triphyllum*. Nor is the color of the spathe always distinctive, that of *A. pusillum*, normally of an uninterrupted black-purple, being sometimes greenish and purple-striped or, exception-

[The BULLETIN for December, 1908 (35: 561-608) was issued 2 Ja 1909 (the date "December 31, 1908," in the number itself is erroneous).]

2 BICKNELL: FERNS AND FLOWERING PLANTS OF NANTUCKET

ally, as destitute of any purplish tinge as the palest-flowered examples of *A. triphyllum*. The essential points of distinction in *A. pusillum*, in addition to such variable differences as smaller size and more slender habit, narrower leaf-segments, deeper-colored and more narrowly lanceolate spathe, which is less decurved forward and with relatively narrower and longer tubular portion, is the slender, non-clavate spadix and brighter green color of the leaves which are more shining on the lower surface and never become distinctly pale or glaucous-whitened beneath as in *A. triphyllum*.

The largest example of *A. pusillum* found on Nantucket had the stem 1.5 cm. thick at the base and measured 32 inches to the tip of the longest leaf.

Arisaema triphyllum does not appear to occur on the island.

ACORUS CALAMUS L.

Wet meadows, pools, and overflowed muddy places, common. Spadices nearly full size June 7.

LEMNACEAE

LEMNA MINOR L.

Common in Long and Miacomet ponds; ditches west of the town; Millbrook Swamp.

LEMNA TRISULCA L.

Common with the preceding in Long Pond and with it also in ditches west of the town.

XYRIDACEAE

XYRIS FLEXUOSA Muhl.

Rather common in sandy bogs and along pond shores; Maxcy's Pond; Shawkemo; Polpis; Watt's Run; Tom Never's Pond. Flowering through August and September, sometimes when less than 5 cm. high.

This small state of the plant was doubtless the basis of the record in Mrs. Owen's catalogue of *Xyris flexuosa* var. *pusilla* A. Gray (*X. montana* H. Ries). This species would scarcely be expected on Nantucket and careful search seems to show that it does not occur there.

XYRIS CAROLINIANA Walt.

Local, but common about some of the bogs in Polpis; Almanac Pond; bog west of Sankaty.

ERIOCAULACEAE

ERIOCAULON SEPTANGULARE With.

In shallow water or wet sand about the borders of a number of ponds, especially Tom Never's, Gibbs' and Maxcy's ponds, and smaller ponds in Polpis. Leaves beginning to show June 8; some fresh heads after the middle of September.

COMMELINACEAE

* TRADESCANTIA VIRGINICA L.

Sparingly established on roadside banks at several places near the town in dry sterile soil. First noticed Aug. 6, 1906 — leaves only; first flowers June 8, 1908.

PONTEDERIACEAE

PONTEDERIA CORDATA L.

Very common in ponds and pools. Leaves just appearing June 8; still some flowers late in September. In the autumn the leaves often become deep blackish-purple.

* PONTEDERIA CORDATA ANGUSTIFOLIA (Pursh) Torr.

The narrow-leaved pickerel weed may be merely a state or condition of the common species, but until this has been established by proof it seems proper to allow it separate recognition. On Nantucket it contrasts strikingly with typical *cordata* and seems to maintain its leaf characters under diverse conditions. The leaves, although often very narrowly triangular-lanceolate, may be equally broad with those of *cordata*, but they are more tapering and are truncate to openly cordate at the base instead of deeply sagittate-cordate as are the ovate to ovate-oblong leaves of the typical plant.

It is common in several of the Polpis ponds and I did not find it anywhere mixing with the cordate-leaved species.

HETERANTHERA DUBIA (Jacq.) MacM.

Reported by Mrs. Owen from Long and Miacomet ponds on the authority of Mr. Morong; I did not meet with it.

JUNCACEAE

JUNCUS EFFUSUS L.

Common; in great luxuriance and of unusual size in Tom Never's Swamp. Inflorescence just appearing June 7; mostly dried in August.

The cyme of this rush, like that of a number of our species, varies from open and diffuse to compact (var. *compactus* Lej. & Cour.), but its form is too unstable to be made the basis of any true distinction. Better characters for the subdivision of this species are to be found in the size and form of the perianth-parts and capsule. On Nantucket very typical examples of the close-flowered state are frequent, the inflorescence sometimes forming a dense glomerule not over 1 cm. in diameter; but the two states of the plant pass readily into each other and the close, subglobose head of the one may be seen opening out into the loose cyme of the other even among the clustered stems of the same tuft.

* JUNCUS BALTICUS Willd.

Sandy levels in the marshes along the "Creeks"; sparingly below the "Cliff." Nearly in flower June 7; cyme mostly dried by August.

Note. — *Juncus filiformis* L. is given in Mrs. Owen's catalogue as common, but it seems evident that some other species was mistaken for it.

JUNCUS BUFONIUS L.

Common on sandy pond shores, low roadsides, and wet places generally. In flower from early June until the end of September or later.

JUNCUS GERARDI Lois.

Abundant, forming a large part of the vegetation of the level salt marshes. In full flower in June; inflorescence dried in August.

JUNCUS TENUIS Willd.

Common and variable, presenting a number of distinct-appearing forms ranging from low and densely tufted (6-12 cm. high) with congested cymes 5-10 mm. long, to tall and lax (3-5 dm. high) with elongated, branched inflorescence 6-13 cm. long. Inflorescence just appearing June 7.

A shade form occurring in dry thickets is characterized by extremely slender culms, growing singly or a few together, and a very sparse inflorescence of only 1-9 flowers, some of them borne on thread-form branches or pedicels sometimes 7 cm. long; the lanceolate-subulate perianth-parts are unusually thin and membranous and conspicuously white-margined.

A very slender and somewhat rigid form which grew in sandy soil near Sachacha Pond has elongated very narrow and involute leaves and bracts, the latter erect and becoming 15 cm. long, and congested cymes, the perianth-parts thickened and somewhat shining. The ligule is shorter, firmer, and less scarious than in typical *tenuis* and the character and aspect of the plant suggests some involvement with *Juncus dichotomus*, a small form of which was associated with it.

An equally aberrant form has been determined by Doctor Wiegand, who kindly examined all of my Nantucket material of this group, as

* *JUNCUS TENUIS ANTHELATUS* Wiegand.

This was collected near Millbrook Swamp, Aug. 19, 1906.

JUNCUS GREENEI Oakes & Tuckerm.

A characteristic rush of Nantucket, occurring everywhere on the dry moors and commons or sometimes in low sandy places growing with *Juncus dichotomus*.

A rather noteworthy modification of this plant occurs in partly shaded grassy places among the pines near Miacomet Pond. The culms, unlike those of the typical plant, which are erect and stiffly clustered, rise singly or a few together and are very slender and elongated, becoming 8 dm. long and finally declined or prostrate; the inflorescence is sparse and few-flowered and subtended by bracts sometimes 2 dm. long.

* *JUNCUS DICHOTOMUS* Ell.

Very common in all quarters in low sandy places. Inflorescence just appearing June 7.

Two forms of this rush are to be especially noted — one, which appears to be the typical plant, becomes 8 dm. tall and bears somewhat open cymes of strictly secund, sessile flowers; the other

form is lower and stiffer with more or less densely congested cymes mostly only 1-3 cm. high.

Another form, if it be not a distinct species, as I have long been inclined to regard it, is more slender than typical *J. dichotomus*, with fewer-flowered, less secund inflorescence, the flowers rather smaller, with shorter, less rigid perianth parts, 2.5-3.5 mm. long, and some of them distinctly pedicelled; the capsule is somewhat more ovoid and smaller, 2-3 mm. high, and commonly of a deeper reddish-brown color; the leaves are equally filiform-terete with those of the type but their auricles are usually less cartilaginous. This plant was found at several places and I have also collected it at Van Cortlandt Park, New York, and on Long Island.

JUNCUS MARGINATUS Rostk.

Infrequent but met with at several widely separated stations.

* *JUNCUS ARISTULATUS* Michx.

Further study of this rush on Nantucket (see *Rhodora* 6: 174. 1904) shows that it occupies a general area extending nearly three miles in an east and west direction and about one and a half miles wide, lying east and north of the middle of the island. Within this section it was met with at a dozen or more localities, nowhere in abundance but often in a condition of exceptional vigor and fruitfulness. The largest examples were 1 m. tall with the larger leaves 7 mm. wide. It is to be found from Shimmo Creek to Pout Ponds, Wigwam Pond, several of the ponds in Polpis, and in Quaise. In September, 1907, two plants were observed at Maxcy's Pond within the western half of the island. In fresh flower Aug. 7, 1906.

JUNCUS PELOCARPUS E. Meyer.

Very common on sandy pond shores and in wet places.

JUNCUS MILITARIS Bigel.

Rather common, forming extensive growths in some of the ponds.

JUNCUS ARTICULATUS L.

Common in wet places and about the shores of ponds and pools.

Note. — *Juncus nodosus* L. is included in Mrs. Owen's catalogue on the authority of Professor Edward S. Burgess. In regard to this Professor Burgess writes me that he does not now recall having collected this plant on Nantucket and that there is quite possibly some mistake in the record.

JUNCUS CANADENSIS J. Gay.

Abundant in low grounds and widely variable, presenting very diverse-appearing forms.

Note. — *Juncus canadensis* var. *coarctatus* Engelm. [*J. brevicaudatus* (Engelm.) Fernald] is included in Mrs. Owen's list. The species may occur but, if so, should be attested as a Nantucket plant by a more specific record.

JUNCUS ACUMINATUS Michx.

Common on pond shores and in wet places generally. On Sept. 2, 1904, it was observed about ponds on the south shore, growing in wet sand and quite generally entering into a second flowering period, many fresh stems with unfolding inflorescence arising among the earlier stems on which the cymes had matured long before and become dried and brown.

JUNCOIDES CAMPESTRE (L.) Kuntze.

Common either in damp or in dry situations. In full flower June 7; by the middle of August it is scarcely to be found except for an occasional withered stem which may chance to persist.

In the recently published Gray's New Manual of Botany, it is pointed out that our plant is not the same as the European with which it has always been supposed to be conspecific, and it appears under the name *Luzula campestris* var. *multiflora* (Ehrh.) Čelak., also a European plant.

MELANTHACEAE

OAKESIA SESSILIFOLIA (L.) Wats.

In low thickets, apparently not common: Millbrook Swamp; Polpis thickets. No flowers remaining June 9.

LILIACEAE

HEMEROCALLIS FULVA L.

Occasional by fence-borders and roadsides and in old fields about and near the town. Large flower-buds June 20.

LILIUM PHILADELPHICUM L.

Somewhat locally common, mainly on the middle eastern side of the island, especially among the Shawkemo Hills ; Saul's Hills ; South Pasture ; near Long Pond. In full flower during the first two weeks of August, 1906, indicating a much later flowering-period on Nantucket than on the mainland. The plants are mostly dwarf, often not over 12 cm. high, including the flower, which, even in such small plants, is of normal size and may be fully as long as the stem. Flowers often in pairs ; in one instance, three together.

LILIUM SUPERBUM L.

Rather uncommon, in bogs and low grounds : Polpis ; Pocomo ; Squam ; west of Sankaty ; Trot's Swamp ; never many plants together but some of large size. No flowers seen ; green capsules observed from the middle of August to the middle of September.

ALETIS FARINOSA L.

Locally common, especially in the southeast quarter and over the dry commons towards the south shore ; also in Polpis and in Squam. Stems a few inches high by the middle of June ; spikes of flowers dried by early August.

CONVALLARIACEAE

* *ASPARAGUS OFFICINALIS* L.

Frequent along field-borders and roadsides and in neglected places ; apparently spreading and occasionally met with far from cultivated neighborhoods. In full flower June 7.

* *VAGNERA RACEMOSA* (L.) Morong.

Grows freely in a few thickets, as on Rattlesnake Bank, Shimmo Creek Bank, and in Polpis, and occurs very sparingly elsewhere, as in Tom Never's Swamp and in Squam. In full flower June 15 ; heavily fruited Aug. 7, 1906 ; fruit fully ripe Sept. 11, 1907.

VAGNERA STELLATA (L.) Morong.

Grows in close beds of considerable extent in openings among the pine scrub about the middle of the island ; some dwarf plants on the commons towards Monomoy ; Acquidness Point ; cedar thicket on Coskaty. In flower June 7 ; fruit ripe Sept. 11, 1907.

UNIFOLIUM CANADENSE (Desf.) Greene.

Locally abundant in low thickets, especially about Tom Never's Swamp and in Polpis ; Shawkemo ; Rattlesnake Bank ; Pocomo ; Trot's Swamp ; Long Pond. In flower June 7 ; fruit well developed June 15 ; some fruit remaining Sept. 15, 1907.

SALOMONIA BIFLORA (Walt.) Britton.

Scarce and local ; Rattlesnake Bank ; Polpis thickets. Some dried flowers remaining June 7 ; ripe fruit Sept. 11, 1907.

MEDEOLA VIRGINIANA L.

Infrequent ; Rattlesnake Bank ; low thickets in Shawkemo and Polpis. In flower June 7.

SMILACEAE

SMILAX HERBACEA L.

Shrubby banks and thickets, infrequent and met with only east and north of the middle of the island ; sometimes growing with exceptional vigor. Shimmo Creek Bank ; Rattlesnake Bank and thicket to the east ; Squam, at Watt's Run and east along the Wauwinet road. Just in flower June 7 ; fruit ripe Sept. 17, 1907. On Rattlesnake Bank it had climbed to a height of 10-12 feet, producing peduncles 18 cm. long, borne down by the heavy umbels of as many as fifty-five berries, the larger umbels 7 cm. in diameter.

SMILAX ROTUNDIFOLIA L.

The fully typical plant is common in low thickets, becoming stout and high-climbing in favorable situations and sometimes forming an impenetrable thorny tangle. In flower and with young fruit June 9 ; no mature fruit seen.

SMILAX ROTUNDIFOLIA QUADRANGULARIS (Muhl.) Wood.

Common in dry places about the borders of thickets or among the low open growth covering sandy levels. Just in flower June 15.

In its extreme form this plant affords a pronounced contrast to typical *rotundifolia* and I would say of it that it remains to be determined whether it represents merely a state assumed by the species in dry and sandy soils or is a derivative now so inde-

pendently established as to merit the specific rank accorded it by Muhlenberg.

Its habit is often erect and little climbing and it seems never to acquire the height and strong development of typical *rotundifolia*. The stem is more or less quadrangular, often definitely so throughout, and becomes numerous short-, zigzag-branched above. The leaves are narrower than in *rotundifolia* and less cordate, if at all so; the stem-leaves rarely if ever cordate-orbicular and broader than long, but ovate or somewhat triangular-ovate; those of the branches very small and numerous and often ovate-lanceolate from a truncate base, or even with slightly concave sides above a somewhat dilated base, showing an approach to the fiddle-shaped leaves of *Smilax tamnoides*. The leaves are also of a somewhat different texture from those of *S. rotundifolia*, firmer and more membranous and more shining beneath, the three primary veins more prominent and more or less roughened with cartilaginous or spinulose processes which extend along the petioles and sometimes also around the entire margin of the leaf. The petioles are shorter than those of *S. rotundifolia*, while the peduncles are longer — longer than the petioles in the one case, shorter in the other. Not many specimens were found in flower, however, and an extended comparison of these characters is not here possible.

Note. — *Smilax tamnoides* L. was attributed to Nantucket in Mrs. Owen's catalogue on the authority of Mr. Dame, and the supposed occurrence of this species in New England has been based upon this record. Not meeting with the plant in my earlier explorations, I searched carefully for it on repeated occasions and finally became convinced that it had never occurred on Nantucket and that *Smilax quadrangularis* had been mistaken for it. This conclusion has been confirmed by Professor Fernald, who writes me on the subject as follows: "In the herbarium of the New England Botanical Club is a sheet of sterile branches of the Dame material which was listed by Mrs. Owen as *Smilax tamnoides*. There is a smaller twig in the Gray Herbarium. Both sheets show the plant to be *S. rotundifolia* var. *quadrangularis*. They have the quadrangular branches and the spinulose-margined teeth and I think there is no doubt that they are, as you supposed, the var. *quadrangularis*. Some of the leaves are fiddle-shaped and

this character doubtless misled Mr. Dame and Dr. Morong and others who started the records which have now been passed along."

SMILAX GLAUCA Walt.

Common, either in dry or in moist thickets, and more generally dispersed than *S. rotundifolia* or *S. quadrangularis*. Not found in flower or in fruit.

AMARYLLIDACEAE

HYPOXIS HIRSUTA (L.) Coville.

Apparently rare. Recorded by Mrs. Owen without mention of any locality. It was not observed by me until 1908, when it was found growing sparingly on dryish levels at the west side of Trot's Swamp, a small, slender form of the plant just in flower June 10.

IRIDACEAE

IRIS VERSICOLOR L.

Common in low meadows and in wet muddy places and about the borders of ponds and pools. In full flower June 7.

IRIS PRISMATICA L.

Common in low grounds, often in damp or even dry sandy soil. First flowers June 11.

* SISYRINCHIUM GRAMINOIDES Bicknell.

Frequent in damp grassy places or locally common, as in low grounds near "Ram Island," Pocomo; sparingly below the "Cliff," with *S. atlanticum*; near Shawaukemmo Spring; Polpis; towards Quidnet. In full flower June 7; belated flowers Aug. 10, 1906. Some specimens with unusually elongated peduncles up to 19.5 cm. long.

* SISYRINCHIUM ATLANTICUM Bicknell.

Common in low grounds in many parts of the island, by preference in damp sandy soil. In full flower June 7; mostly dried up and little noticeable by August. Near Trot's Swamp, with the flowers of adjoining plants, sky-blue or deep reddish-purple, in striking contrast.

12 BICKNELL: FERNS AND FLOWERING PLANTS OF NANTUCKET

SISYRINCHIUM ARENICOLA Bicknell.

One of the characteristic Nantucket plants, occurring in dry sandy places all over the island. In full flower June 7; belated flowers as late as Sept. 20, 1907.

ORCHIDACEAE

CYPRIPEDIUM ACAULE Ait.

Local, mostly within the southern half of the island from Hummock Pond to 'Sconset; pine grove east of Hummock Pond; east of Miacomet Pond; South Pasture; oak barrens in southeast quarter; borders of Tom Never's Swamp. Some fresh flowers in the shade of pines as late as June 17.

GYMNADENIOPSIS CLAVELLATA (Michx.) Rydb.

A close group of eleven well-fruited plants in open low ground near the head of Long Pond, Sept. 10, 1904; a scattered colony in wet sphagnum on the south side of Sachacha Pond, Sept. 19, 1907. Recorded from Long Pond by Mrs. Owen.

BLEPHARIGLOTTIS BLEPHARIGLOTTIS (Willd.) Rydb.

Common in sandy bogs: Tom Never's Swamp; 'Sconset; Polpis Bogs; Pout Ponds; Watt's Run. Some flowers left Aug. 16, 1906; a belated raceme of flowers Aug. 31, 1904; mature fruit Sept. 15, 1907. Mrs. Owen has recorded var. *holopetala* Gray from "Near edge of swamp opposite Bloomingdale."

BLEPHARIGLOTTIS CILIARIS (L.) Rydb.

Mrs. Owen has recorded a single plant found in 1872 between Siasconset and Polpis.

BLEPHARIGLOTTIS LACERA (Michx.) Rydb.

Frequent or rather common, occurring at widely separated points, but rarely more than a few plants in each locality. Some remaining flowers as late as the second week of August, 1906.

POGONIA OPHIOGLOSSOIDES (L.) Ker.

Abundant in open bogs. Small, precocious flowers in a drying bog June 11; generally coming into bloom June 18; some late flowers in the second week of August, 1906.

LIMODORUM TUBEROSUM L.

Common in bogs. Green flower buds June 18.

ARETHUSA BULBOSA L.

Frequent or rather common in low grounds, often about the borders of swamps. In full flower June 7.

IBIDIUM GRACILE (Bigel.) House.

Scattered plants are rather common in dry open places, sometimes growing in pure sand, occasionally with *I. Beckii*. First flowers Aug. 11, 1906, blooming through September. In August when *I. Beckii* is in full flower, this species, which has a rather later flowering-period, appears to be much the less common, or even rare, but in September when in full bloom, it seems to be equally common with *I. Beckii* or even somewhat more so.

IBIDIUM BECKII (Lindl.) House.

Common throughout in sandy open places, often in pure sand, usually single plants or a few together. In full flower early in August, continuing in bloom at least until after the middle of September.

IBIDIUM CERNUUM (L.) House.

Common in low grounds, coming into flower late in August.

ACHROANTHES UNIFOLIA (Michx.) Raf.

South Pasture, not far from the railroad at about the third mile — a scattered colony of perhaps a dozen plants, in full flower Aug. 6, 1906. Reported from hills west of Sachacha and west of Bloomingdale, 1886.

LEPTORCHIS LOESELII (L.) MacM.

Reported, like the preceding, on the authority of Mr. Dame, from wet bank on the shore of Sachacha, 1886. I met with it only at Watt's Run, where two plants were found growing in deep, wet sphagnum Sept. 17, 1907. One of these plants was of unusual size, bearing a closely fruited raceme of thirteen capsules; the plant was 26 cm. high, its larger leaf 24 cm. long, the larger capsules 1.5 cm. high.

SALICACEAE

POPULUS ALBA L.

Spontaneous and spreading in the neighborhood of the town and elsewhere; on the bluff at 'Sconset; many sprouts and groups of young trees about a long-abandoned farm in Polpis.

14 BICKNELL: FERNS AND FLOWERING PLANTS OF NANTUCKET

* *POPULUS CANDICANS* Ait.

Established and spreading here and there, especially about the sites of almost obliterated farms. On the border of Trot's Swamp is a scattered group of trees of various ages, the largest about twenty feet high and twenty-eight inches in girth a foot above the base.

POPULUS GRANDIDENTATA Michx.

Infrequent: Taupawshas Swamp; Shawkemo; boggy depressions along the northern border of Saul's Hills; Tom Never's Swamp; probably no trees seen over six or eight feet high.

* *POPULUS TREMULOIDES* Michx.

Occasional or frequent from the head of Long Pond across the island to 'Sconset and Polpis; small trees only.

Note. — It should be recorded that a few small trees of *Populus tremula* L., of Europe, occur scattered among the pines near Mia-comet Pond. It would be a natural inference that these were accidentally introduced when the European pines were planted. But, if this be true, it is difficult to account for the small size and apparent youth of the poplars, the pines having been planted over thirty years ago. The largest of the poplars was less than ten feet high in 1907 and some were only a few feet tall. The same mystery attaches to the presence among the pines of some young trees of the Norway maple (*Acer Pseudo-platanus* L.) and a single small American chestnut [*Castanea dentata* (Marsh.) Borkh.] about ten feet in height. Among these pines also are a few small hickories which are certainly not native where they are established. A single small tree of *Populus tremula* was also found among the pines on the Surfside road which shelter as well scattered trees of the white ash (*Fraxinus americana* L.) and American elm (*Ulmus americana* L.), which are not known ever to have occurred on the island as native species.

* *SALIX FRAGILIS* L.

Introduced willows are established on Nantucket here and there along roadsides and meadows and about old farm lands. As a rule they have shown little ability to spread and some of the larger trees, of no great height in any case, which must have been

planted generations ago, maintain a solitary existence still. Younger trees of most of the species testify to some slight progress in natural increase but, except in the case of *Salix Smithiana*, none of the European species can be regarded as really naturalized.

What appears to be typical *Salix fragilis* occurs at a few places, but it is not common and seems to be only casually spontaneous.

* *SALIX ALBA* × *FRAGILIS* Wimmer.

Less uncommon than typical *Salix fragilis* and less doubtfully spontaneous, occurring at widely separated localities sometimes in out of the way places. The trees from different stations show considerable variation in the size and form of the leaves and the pubescence of the younger parts, some individuals evidencing more of their *alba* parentage, others more that of *fragilis*. No unequivocal examples of the hybrids *Salix decipiens* Hoff. and *Salix Russelliana* Smith were found. As a matter of local interest, the willows of this group should be studied in their flowering and fruiting seasons and receive careful determination.

* *SALIX ALBA* L.

Infrequent; typical *Salix alba* was collected at the border of a swampy thicket in Polpis. *Salix vitellina* L. was not observed.

* *SALIX BABYLONICA* L.

In a swampy lot on the south side of the town, in a situation where it would scarcely have been planted, a tree of medium size grew in 1899 and 1904 but had disappeared in 1906. This tree was perhaps the parent of two young trees, one about five feet high, observed in 1907 in low fields not far distant. A tree near the cockspur-thorn lot to the west of the town, growing with other introduced trees, was doubtless planted, as well as another tree near it, apparently a hybrid with *S. fragilis*.

* *SALIX SMITHIANA* Willd.

Salix cinerea × *viminialis* Wimmer.

This strongly characterized willow seems to be better adapted to the Nantucket environment than any other of the introduced species, and more than any other may be considered as definitely established. It is frequent in the general town region as well

as at outlying points and was met with in such uninhabited quarters as the "Woods" and east of Hummock Pond. It is well established on and below the bluff at 'Sconset, where groups of vigorous young trees were observed in 1904 and 1906, the larger being ten feet or more in height. In trees of this age the bark of the trunk and branches is smooth and pale greenish-gray, the younger twigs pale green and yellowish. That the tree was early planted in Nantucket is shown by some old trees in the outskirts of the town, in which the trunks are seamed and furrowed and gray with lichens. Not observed in flower or in fruit. The foliage of the Nantucket tree matches perfectly with that of Bebb's no. 55, Herbarium Salicum, grown at Fountaindale, Illinois, 1880.

Although this tree was undoubtedly introduced into Nantucket as a hybrid, and as such has maintained itself and increased its foothold, it is of particular interest to find that its parent species, *Salix cinerea* L. and *Salix viminalis* L., are also present on the island. A single tree of each was met with at points about six miles apart on opposite sides of the island. The detailed record of each follows.

* *SALIX VIMINALIS* L.

A single tree grows by a pond in a low field on the western side of the town. The tree is a very old one and is of large size for the species, the gnarled and sloping trunk thickly clothed with young shoots. It stands close to the rear yard of an old dwelling, where it may be supposed to have been originally planted, and it is referred to here only on account of its interest as one of the alleged parents of *Salix Smithiana*.

* *SALIX CINEREA* L.

A single thriving shrub of several stout stems about ten feet high on the border of Tom Never's Swamp, growing with *Salix Bebbiana* and *Salix petiolaris*. Bark of the stems smooth, and pale yellowish-gray. This shrub was first observed Sept. 15, 1907; on June 13, 1908, it bore many mature fertile catkins. Specimens collected agree closely with a sheet of Seringe's Swiss Willows in the herbarium of the New York Botanical Garden labeled as follows:

"*Salix cinerea* ♂ *obovata* Ser. rév. inéd.

S. acuminata Ser. saul. dess. n. 26-27.

S. acuminata obovata Ser. ess. 13.

S. aquatica Smith engl. bot. t. 1437, ex Borrer in litt.!

Berne, rives de l'Aar. 1824."

This species was not found in cultivation anywhere on Nantucket and its occurrence amid the native vegetation in the undisturbed surroundings of Tom Never's Swamp seems very noteworthy.

* *SALIX PENTANDRA* L.

Three trees 8 to 12 feet high in a low field below the "Cliff"; a group of more than thirty trees along the edge of a meadow near Lily Pond, the larger about eighteen feet high and smaller ones of a later generation among them. These trees had doubtless been planted originally at both stations and though now growing in natural surroundings have shown little disposition to become spontaneous. Some fertile catkins remained June 20.

* *SALIX PURPUREA* L.

Established at a few places in low meadows west of the town; a group of trees on the border of a damp field at 'Sconset.

* *SALIX CORDATA* Muhl.

Typical *Salix cordata* is found in abundance at Washing Pond, forming dense masses four to six feet high along the gravelly shore, the stems and branches often spreading and procumbent in the sand. It occurs also in Trot's Swamp. Not found in flower or fruit.

* *SALIX RIGIDA* Muhl.

Frequent in the neighborhood of Millbrook Swamp, sometimes forming close clumps eight or ten feet high; Trot's Swamp. Some fertile catkins remaining June 10.

SALIX DISCOLOR Muhl.

Except in the "Woods," where it is frequent, this is found only on the eastern side of the island; in the southeastern quarter from Tom Never's Swamp to Gibbs' Pond it is rather common and it occurs also in Polpis, inhabiting boggy spots along the northern side of Saul's Hills. A single tree at Watt's Run was fully twelve feet high and bore unusually large and thin, long-petioled leaves.

18 BICKNELL: FERNS AND FLOWERING PLANTS OF NANTUCKET

Certain specimens included here are perhaps referable to *Salix prinoides* Pursh.

* *SALIX ERIOCEPHALA* Michx.

Frequent or rather common in the same parts of the island where the preceding is found and often growing with it. Broad-leaved and narrow-leaved forms occur, one of the latter having the leaves and branchlets heavily invested with a soft ferruginous pubescence.

* *SALIX BEBBIANA* Sarg.

Frequent, occurring in the same localities as the two foregoing species. A few pistillate aments remaining June 13. On the border of Tom Never's Swamp a distinct-appearing form was met with, having unusually broad obovate leaves, densely velvety-pubescent on the lower surface and to some extent above.

* *SALIX HUMILIS* Marsh.

A single very typical shrub a little over three feet high met with on a dry spot at the border of Taupawshas Swamp. A few shriveled fertile aments accidentally persistent June 18.

SALIX TRISTIS Ait.

This low willow is frequent on the plains along the south side of the island east of Surfside, and large beds of it are found in the South Pasture. It was met with elsewhere only on the borders of Tom Never's Swamp and sparingly along the bluff at 'Sconset.

* *SALIX SERICEA* Marsh.

A single small shrub, about four feet high, in Gibbs' Swamp, Sept. 5, 1904.

* *SALIX PETIOLARIS* J. E. Smith.

Two low shrubs met with in Tom Never's Swamp, not far from the 'Sconset road, September, 1907 and June, 1908.

MYRICACEAE

* *MYRICA GALE* L.

A single strongly growing clump on the west side of Capaum Pond near the shore, covering a space about two yards in longer diameter. It is about two feet in height, and appears to be a

cluster of small shrubs but is in reality from a single root, the lower branches at first widely spreading on and below the surface of the ground.

MYRICA CAROLINENSIS Mill.

Everywhere an exceedingly common shrub, much dwarfed in dry open places, in low thickets becoming eight feet high.

COMPTONIA PEREGRINA (L.) Coulter.

Common over the plains and in the oak barrens, mainly on the southern and eastern sides of the island.

JUGLANDACEAE

HICORIA ALBA (L.) Britton.

Frequent in thickets, mainly in the northeast quarter of the island: Shawkemo; Quaise; Polpis; Pocomo; Squam; barrens west of Sankaty. Sometimes fruiting well when not over six feet high. No trees seen over fifteen feet in height. In full flower June 11; fruit nearly full size the second week of September.

* *HICORIA MICROCARPA* (Nutt.) Britton.

South of Wauwinet, in a dense thicket, Sept. 2, 1904—a single stout tree perhaps ten feet high with wide-spreading branches, the lowermost resting on the ground. Fruit abundant, definitely compressed, suborbicular in outline and mostly broader than long, the smaller, when dried, 18 mm. long and wide and 15 mm. thick, the larger 22 mm. long, 25 mm. wide, and 20 mm. thick. The bark of this tree was very pale and smooth like that of a beech, which seems to be a characteristic common to the three hickories native to Nantucket.

A single tree about seven feet high was found in a thicket in Pocomo, Sept. 21, 1907.

HICORIA GLABRA (Mill.) Britton.

Apparently rare, and certainly much less frequent than the mockernut. Found only in Shawkemo, and in Pocomo, fruiting rather sparingly. Fruit full size Sept. 11–21, 1907, obovoid-oblong or pyriform, the largest 28 mm. long, 24 mm. wide, 21 mm. thick. On June 9, 1908, it was much less advanced in foliage than was *Hicoria alba* growing with it and no aments

were developed although its companion species was covered with them.

In the dense thicket in Shawkemo, is a group of several trees certainly fifteen feet high, the largest twenty-eight inches in circumference a foot above the base; their bark is close and white like that of a beech, although a little broken and darker low on the larger trunks.

Note. — The shag-bark hickory [*Hicoria ovata* (Mill.) Britton] is mentioned by Mrs. Owen as having been found on Coskaty by Mr. W. L. Foster. The tree would be rather unexpected on Nantucket and a more detailed record seems to be needed. A few young trees, one about eight feet high, grow among the Miacomet pines, where they are certainly not native, and their presence there affords no better reason for admitting the species into the Nantucket flora than for accepting the chestnut as a Nantucket tree on the strength of a single small sapling found growing like the hickories among the pine trees.

BETULACEAE

CARPINUS CAROLINIANA Walt.

Admitted in Mrs. Owens' list; I did not meet with it.

CORYLUS AMERICANA Walt.

Frequent or common in dry thickets from the east side of the lower harbor to Shawkemo, Quaise, Polpis, and Squam. As a rule it does not fruit freely but sometimes, as on Rattlesnake Bank, it is very prolific.

CORYLUS ROSTRATA Ait.

Much more common and generally distributed than the foregoing, entering freely into the composition of the woody growth over the moorland and on dry exposed hillsides, and fruiting prolifically often when only six to twelve inches high. In low thickets in Polpis it reached a height of several feet and was loaded with fruit, some of the branchlets only five inches long bearing as many as ten well-developed nuts. In these the body of the fruit was small, 10–13 mm. long, and densely bristly-pubescent, the beak varying from straight to much curved and from 10 mm. to 25 mm. in length. On some of these low fruiting shrubs the

leaves were unusually small, sometimes only 3-5 cm. long throughout. In richer soils the shrub is taller with larger leaves and fruit, the latter becoming 18 mm. long with a stout beak 2-3.5 cm. in length.

BETULA POPULIFOLIA Marsh.

Rare near the town but well scattered locally over the island, mostly very small trees and none perhaps over 8 or 10 feet high: Shawkemo; Taupawshas Swamp; Quaise; Polpis; along the north side of Saul's Hills; Gibbs' Swamp; Tom Never's Swamp; west of Tristram Coffin's; head of Long Pond.

Note.—Some small stunted trees of the European birches, *Betula pubescens* Ehrh. and *Betula pendula* Roth, grow in a low, half-swampy thicket west of the town, together with several kinds of introduced oaks and native trees. This thicket adjoins the tract of land enclosed by cockspur thorns set out by William Henry Gardner about the year 1830, as recorded by Mrs. Owen (Cat. p. 25). The lot or thicket where these introduced oaks and birches now grow must have been utilized at one time as a sort of nursery, but either the trees were planted at a considerably later date than the thorn trees or else have been of very slow growth. Whatever their history, they have long been wholly neglected and have now united in a thick and tangled growth with the native trees and shrubbery, appearing as if they also were part of the natural vegetation of the region.

*ALNUS NOVEBORACENSIS Britton.

Two small shrubs grow on the western side of Capaum Pond and one on the south shore of Sachacha Pond; a single stout shrub grew just back of the shore on the east side of the lower harbor at Monomoy in 1904, but in 1907 was found to have disappeared.

The type of *Alnus noveboracensis* seems to be an aberrant form of a very common shrub which, on the one hand, almost unites with, or perhaps hybridizes with, *Alnus rugosa* (DuRoi) Koch and, on the other, approaches very close to *Alnus glauca* Michx. With the latter it seems to have been quite generally referred to *Alnus incana* (L.) Willd. of Europe, which, in my view, cannot properly be regarded as the same. The European shrub is, however, a

very near relative of our *Alnus glauca*, but less closely related to the obscurely known shrub here discussed.

In accordance with this understanding of *Alnus noveboracensis*, it is characterized by leaves of thickish texture, ovate to broadly obovate, mostly rounded but sometimes narrowed to the base and acute at the apex, slightly repand and dentate-serrate, dull green above, paler green beneath and rusty-pubescent on the veins or becoming densely ferruginous-pubescent over the entire lower surface as well as on the branchlets. This character is remarkably pronounced on some of the Nantucket material. *Alnus glauca* differs in more membranous leaves, oftener subcordate at the base and more sharply undulate-lobed, the lower surface pale glaucous-blue and glabrous or nearly so except on the larger veins. The bark of *Alnus noveboracensis* is somewhat intermediate between that of *Alnus glauca* and *Alnus rugosa*.

FAGACEAE

FAGUS GRANDIFOLIA Ehrh.

Uncommon and often quite hidden from view among the dense thickets where it is usually found. A small strongly established colony in Quaise ; Shawkemo, east of Rattlesnake Bank ; an occasional small tree in Pocomo ; Watt's Run bank — a single old tree of clustered second growth trunks perhaps fifteen feet high, the tallest seen ; one tree about twelve feet high on Coskaty ; sparingly on both sides of Tom Never's Swamp, the stoutest tree measuring thirty-four inches in circumference below the nearly basal lower branches. A single tree in Quaise had developed a few imperfect fruits.

The leaves vary widely in shape and degree of dentition as well as in pubescence — from ovate with definitely cordate base to lanceolate-oblong with narrowed base and from nearly glabrous with silky-pilose hairs on the veins beneath to thinly silky-pilose on the upper face and densely soft puberulent over the entire lower surface without any silky hairs ; the margins are sometimes thickly pilose-fringed. These wide variations, almost in their extreme phases, may sometimes be found in leaves from the same tree.

Note. — A single slender sapling of the American chestnut, *Castanea dentata* (Marsh.) Borkh., grows in an opening among

the pines near Miacomet Pond; on June 17, 1908, it was about ten feet high. (See note under *Populus tremula*.)

QUERCUS COCCINEA Wang.

A few small trees occur among the pines south of the fair grounds and a single tree at the edge of the pine grove on the Surfside road. On June 12, 1908, this tree was less than ten feet high, the upper parts dead, but, near the base, bearing many widely radiating prostrate branches closely pressing the ground and twelve to twenty-two feet in length; on some of these the terminal branchlets were so slenderly elongated as to appear trailing and the abundant foliage of erect or ascending branchlets gave the appearance of a low growth of scrub-oak completely surrounding the tree.

This oak was seen nowhere else than at the two points mentioned and it seems very doubtful if it is native to the island.

QUERCUS VELUTINA Lam.

Of the few arborescent oaks native to Nantucket this and the white oak are still common enough to show that they must have been among the prevailing trees before the wooded parts of the island were deforested generations ago. Both species usually occur together, mostly about the borders of dense thickets or surrounded on all sides by an almost impenetrable growth of low trees and shrubbery. In such situations they are often noticeable from a distance rising above the surrounding growth, although rarely more than eight or ten feet in height. Here and there, as in Quaise, Polpis, Pocomo, about Tom Never's Swamp, and on Coskaty, they are of larger stature, reaching a height of fifteen or twenty feet, and unite with the sour gum, sassafras, wild cherry, red maple, and other trees to form patches of low woodland. The stoutest black oak seen was in Tom Never's Swamp and measured thirty-six inches around near the base.

On Coskaty is a considerable tract of low, thickety, almost impenetrable woodland largely composed of this oak, compact heavily foliated trees, which bear abundant fruit. Here the species separates into two remarkably diverse forms, which flourish side by side. One is the ordinary form of the tree having leaves with broad lobes mostly wider than the often shallow sinuses. Its companion form might easily be mistaken for the scarlet oak. The

leaves are even more deeply cut, with the sinuses wide and deep, often much wider than the lobes, leaving the lamina along the midrib narrowed to a width of only 0.8 to 1.5 mm. These leaves were mostly wider than long, the median lobes divergent and spreading, about twice the width of the narrowed basal pair, widely dilated towards the end into divergent, triangular, entire lobes, the narrowed basal part often elongated and mostly 1 to 1.5 cm. wide. Many of these leaves as late in the season as the middle of August, with their petioles and the branchlets, were clothed with a fine stellate scurfiness; others were glabrous except in the axils of the primary veins.

* *QUERCUS PAGODAEFOLIA* (Elliott) Ashe.

Near Quaise Point, June 11, 1908 — a single tree in full flower growing in a low thicket. The tree was about twelve feet high and twenty-four inches around two feet above the base; the lowest branches, over six feet above the ground, were nearly horizontal and their widest spread about ten paces. The tree stood in an opening into the thicket and much of the bark of the trunk had at one time been destroyed, apparently by cattle; the wound had healed but the trunk had been nearly girdled and the living bark on one side reduced to a strip only three inches wide.

Doctor N. L. Britton has joined me in a study of the leaves of this tree and we have reached the conclusion that it can be referred to no other species than *Quercus pagodaefolia*. The leaves are not in all respects precisely identical with typical examples of *pagodaefolia* from the southern states, their lobes being often less acuminate and entire and the pubescence of the lower surface less firmly persistent and of a more yellowish tinge; but the form of many of the leaves is exactly that of the southern tree and quite unlike that of any of our northern oaks, the lobes being triangular-lanceolate and wholly entire. Other leaves approach in form those of the black oak but differ in the lobes being more narrowed towards the ends and more entire, the basal pair spreading as widely as the median ones, or nearly so, instead of being conspicuously shorter.

In Britton's Manual the range of *Quercus digitata* (Marsh.) Sudw. is given as extending north to Long Island. This northern limit was based on a single tree found by me near Hempstead,

which is the same as the Nantucket tree and should now be referred to *Quercus pagodaefolia*. It may here be also recorded that an individual of precisely the same kind of tree was observed at Fair Haven, Mass., June 6, 1908; this tree was some 25 to 30 feet in height and about a foot in diameter near the base.

QUERCUS ILICIFOLIA Wang.

Abundant on the eastern side of the island, in many places forming extensive thickets of so dense and rigid an entanglement as to be almost impassable. Fruiting abundantly.

QUERCUS ALBA L.

Rare on the western side of the island; frequent or locally common in thickets on the eastern side in the section east and northeast of a line drawn from Quaise to Tom Never's Swamp. The trees are mostly 6 to 10 feet in height, but become at least fifteen feet high in low swampy woods in Polpis. No fruit was found.

The stoutest native tree of any kind met with on the island was a white oak in a dense thicket in Quaise which measured 40 inches in circumference a foot above the base.

* *QUERCUS STELLATA* Wang.

Met with at four stations on the eastern side of the island. The nearest of these to the town is about two and a half miles out on the Wauwinet road, where there is a group of straggling trees covering a space ten or twelve paces in longer diameter, the trunks mostly ascending and the tallest less than ten feet high; these were a second growth from old stumps that had been cut long before. They bore abundant immature fruit, Sept. 11, 1907. A single tree about six feet high was found in 1906 in Saul's Hills west of Altar Rock Hill, and a tree of about the same height in Tom Never's Swamp, less than a half mile southeast of 'Sconset. A close group of four trees less than ten feet in height was discovered in 1899, about a mile northwest of 'Sconset. In June, 1908, these trees seemed to be dying; the ground about them had been much trampled by cattle and the trunks much abraded; the largest trunk was $19\frac{1}{2}$ inches around a foot above the base.

QUERCUS PRINOIDES Willd.

Common on the eastern side of the island in the same territory as *Quercus ilicifolia* and often associated with it. Fruiting freely. Staminate aments June 13.

* *QUERCUS PRINOIDES RUFESCENS* Rehder.

Met with at many points always in association with *Quercus prinoides* and *Quercus ilicifolia*; near Sankaty Head; Tom Never's Swamp; Plainfield; between the fourth and sixth mile along the railroad.

While there seems to be nothing in the habit or aspect of this oak to set it apart from typical *Quercus prinoides* it may always be readily distinguished by reason of its puberulent branchlets and the densely pubescent veins on the under surface of the leaves; the pubescence is also usually of a slightly fulvous tinge. Notwithstanding this greater pubescence below of the mature leaves, the unfolding leaves are commonly much less pubescent than are those of typical *Q. prinoides* of corresponding age. In general the leaves of *rufescens* are, as Mr. Rehder has pointed out, more obovate and less gradually narrowed to the apex and perhaps, also, more sharply undulate-lobed, but these differences, although often well-defined, are not at all constant.

On Long Island *rufescens* is common, as on Nantucket, inhabiting tracts where *Quercus prinoides* and *Quercus ilicifolia* are common also. In September, 1908, the fruit was collected at two places and presented well-defined differences from that of *Quercus prinoides* obtained at the same time, being considerably larger with a much deeper cup, more rounded below, and often covering more than half the acorn; the scales of the cup are also paler in color and more densely tomentulose-felted as well as longer and more narrowed to the apex, and form a perceptible erect fringe around the margin. The acorns measured when dry 15 mm. long by 12 mm. thick, the cups 12-15 mm. wide by 10 mm. deep; in *Q. prinoides* collected with it the acorns were 10-12 mm. long by 9-11 mm. thick, the cups 10-12 mm. wide by 4-6 mm. deep. The fruit of many of our oaks is, however, remarkably variable, and it is yet to be ascertained whether the differences here described are in any way constant. The actual status of this newly described

oak remains to be determined. It may be merely a phase of *Quercus prinoides* or it may be a distinct although very closely related species.

Note.—Several species of introduced oaks, some appearing like native trees, grow in the long-neglected lot, near the present Benjamin Coffin farm west of the town, which has already been referred to as a station for the European birches, *Betula pubescens* and *Betula pendula*. These oaks are the following, there being from one to several small trees of each species: *Quercus bicolor* Willd.; *Quercus rubra* L.; *Quercus palustris* Muench.; *Quercus Robur* L.

ULMACEAE

* *ULMUS AMERICANA* L.

A few small scattered trees have sprung up among the pines on the Surfside road, where they appear to be wholly spontaneous. Two trees estimated to be about thirty feet in height grow together on the edge of Trot's Swamp on the north side. This part of the island is now quite uninhabited and these trees appear like part of the native vegetation, but they are not far from a long-abandoned farm, and some trees of *Populus candicans* near them, of considerable size, are unmistakable evidence of man's handiwork in generations gone. All of these elms are the form with pubescent branchlets with the leaves very scabrous on the upper surface.

Elms were early planted in the town, where they have thriven well and become a very beautiful feature of some of the main streets.

Note.—Some small trees and shoots of the European elm (*Ulmus campestris* L.) are found along the road to Surfside, beyond the outskirts of the town, but they are only sparingly spontaneous about trees that must have been originally planted.

MORACEAE

* *HUMULUS LUPULUS* L.

Along an old roadside fence and in an adjoining field west of the town; also on Crooked Lane, and at several places near cultivated ground, where it is less clearly spontaneous. First noticed in a wild state in 1906.

* *HUMULUS JAPONICUS* Sieb. & Zucc.

Found in 1899 trailing all over a rubbish-heap by a roadside north of the town; not seen again until 1907, when a single plant in full flower was observed Sept. 16, in waste ground less than a mile south of the town.

CANNABIS SATIVA L.

Two instances of the occurrence of this species in the town are recorded by Mrs. Owen. I did not meet with it.

Note. — A thick cluster of the white mulberry (*Morus alba* L.) about four feet in height, from two main shoots, grew on Sept. 11, 1907, on the edge of a field near a barn on the Wauwinet road about two miles from the town. The tree may have been originally planted at or near this station and the species is noted here only for the purpose of a record in the case of a tree which has shown a readiness to become naturalized in some parts of the country.

URTICACEAE

URTICA URENS L.

Mrs. Owen has reported this nettle as rare at the time her list was published in 1888, but a not uncommon garden weed fifty years earlier. I saw nothing of it.

* *URTICA LYALLII* Wats.

A vigorous patch in full flower growing by a fence near waste ground in 'Sconset June 13, 1908.

* *ADICEA PUMILA* (L.) Raf.

Rare, but growing in abundance in an open sphagnum bog in Shimmo valley; also in Watt's Run bog; in full flower Aug. 29, 1904 and Sept. 11, 1907.

BOEHMERIA CYLINDRICA (L.) Willd.

By the borders of several ponds and in low thickets west of the town; Trot's Swamp; Polpis; Watt's Run; in full flower Aug. 14, 1906.

* *BOEHMERIA SCABRA* (Porter) Small.

Rather common in weedy meadows and wet places across the northern side of the island from Long Pond to Polpis. In full flower in early September.

Typical examples appear very distinct from *Boehmeria cylindrica* but the two plants seem to run together and may prove to be only extreme conditions of one species.

PARIETARIA PENNSYLVANICA Muhl.

Mrs. Owen's list records "some half dozen" plants found in 1879 on Coatie "in beach sand close to a boulder near the water's edge."

SANTALACEAE

COMANDRA UMBELLATA (L.) Nutt.

Very common over the moorland, especially in the southeast quarter of the island. Some plants still in flower June 13.